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Parton and hadron propagation in the nuclear medium ALBERTO ACCARDI, Hampton U. and Jefferson Lab — Semi-inclusive hadron and jet production in DIS on nuclear targets can be used to investigate the propagation of quarks and hadrons in cold nuclear matter with a dual aim. First, the target nucleus can be used as a femtometer scale detector of parton energy loss dynamics and hadronization time scales, able to benchmark most existing model calculation of that effect. Second, the propagating parton can be used as a colored probe of gluonic "matter," sensitive to gluon saturation as well as other small-x effects. This talk will review the experimental possibilities offered by the EIC, which appears to be an ideal machine for this kind of studies.

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